

IN THE CLAIMS

Please amend claims as follows:

1. (Cancelled) An image processing apparatus, comprising:
a dividing unit to divide an image into a plurality of regions based on a division signal;
a generating unit to generate components of the respective divided regions;
an encoding unit to encode the generated components; and
a combining unit to combine the encoded components into a codestream.
2. (Cancelled) The image processing apparatus as claimed in claim 1, wherein
the encoding unit encodes the generated components using different encoding methods.
3. (Cancelled) The image processing apparatus as claimed in claim 1, wherein
the encoding unit encodes the generated components using different levels of
quantization.
4. (Cancelled) The image processing apparatus as claimed in claim 1, further
comprising:
a converting unit to change the data format of the generated component prior to the
encoding of the generated component.
5. (Cancelled) The image processing apparatus as claimed in claim 1, wherein the
dividing unit divides the image into a region of interest and the other region.

6. (Cancelled) The image processing apparatus as claimed in claim 1, wherein the dividing unit divides the image into at least two of a text region, a drawing region, a photograph region, and a background region based on the division signal.

7. (Cancelled) The image processing apparatus as claimed in claim 1, further comprising:

a recognizing unit to recognize the regions of the image, generate the division signal based on the recognition, and transmit the generated division signal to the dividing unit.

8. (Cancelled) An image forming apparatus, comprising:
the image processing apparatus that encodes an image into a codestream, when the image processing apparatus comprises a dividing unit to divide an image into a plurality of regions based on a division signal, a generating unit to generate components of the respective divided regions, an encoding unit to encode the generated components, and a combining unit to combine the encoded components into a codestream,

a storing unit to store the codestream;

an image decoding apparatus to decode the codestream stored in the storing unit into the image; and

an image forming unit to form the decoded image.

9. (Cancelled) A method of processing an image, comprising:
dividing an image into a plurality of regions based on a division signal;
generating components of the respective divided regions;

encoding the generated components; and
combining the encoded components into a codestream.

10. (Cancelled) An article of manufacture having one or more recordable medium storing instructions which, when executed by a computer, cause the computer to perform a method comprising:

dividing an image into a plurality of regions based on a division signal;
generating components of the respective divided regions;
encoding the generated components; and
combining the encoded components into a codestream.

11. (Cancelled) The article of manufacture as claimed in claim 10, wherein encoding the encoded components comprises encoding the generated components using different encoding methods.

12. (Cancelled) The article of manufacture as claimed in claim 10, wherein encoding the encoded components comprises encoding the generated components using different levels of quantization.

13. (Cancelled) The article of manufacture as claimed in claim 10, wherein the method further comprises:
changing the data format of the generated component prior to the encoding of the generated component.

14. (Cancelled) The article of manufacture as claimed in claim 10, wherein dividing the image comprises dividing the image into a region of interest and the other region.

15. (Cancelled) The article of manufacture as claimed in claim 10, wherein dividing the image comprises dividing the image into at least two of a text region, a drawing region, a photograph region, and a background region based on the division signal.

16. (Cancelled) The article of manufacture as claimed in claim 10, wherein the method further comprises:

recognizing the regions of the image, generating the division signal based on the recognition, and transmitting the generated division signal to the dividing unit.

17. (New) An image processing apparatus, comprising:
a segmenting unit to segment an image into one or more regions;
a generating unit to make the one or more regions segmented by the segmenting unit into components;
an encoding unit to encode the components made by the generating unit into code data using different compression methods; and
a combining unit to combine the code data encoded by the encoding unit into a codestream.

18. (New) The image processing apparatus as claimed in claim 17, wherein the encoding unit divides the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

19. (New) The image processing apparatus as claimed in claim 17, wherein the segmenting unit segments the image into at least one of a text region, a drawing region, a photograph region, and a background region.

20. (New) The image processing apparatus as claimed in claim 17, further comprising:

- a storing unit to store the codestream combined by the combining unit;
- a decoding unit to decode the codestream stored in the storing unit into an image; and
- an image forming unit to form the image decoded by the decoding unit.

21. (New) An image processing apparatus, comprising:

- a segmenting unit to segment an image into one or more regions;
- a generating unit to make the one or more regions segmented by the segmenting unit into components;
- a converting unit to convert the respective components into different data formats;
- an encoding unit to encode the components converted by the converting unit into code data using a same compression method; and
- a combining unit to combine the code data encoded by the encoded unit into a codestream.

22. (New) The image processing apparatus as claimed in claim 21, wherein the encoding unit divides the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

23. (New) The image processing apparatus as claimed in claim 21, wherein the segmenting unit segments the image into a least one of a text region, a drawing region, a photograph region, and a background region.

24. (New) The image processing apparatus as claimed in claim 21, further comprising:

- a storing unit to store the codestream combined by the combining unit;
- a decoding unit to decode the codestream stored in the storing unit into an image; and
- an image forming unit to form the image decoded by the decoding unit.

25. (New) An image processing method comprising:

- segmenting an image into one or more regions;
- generating the one or more segmented regions into components;
- encoding the components into code data using different compression methods; and
- combining the code data into a codestream.

26. (New) The image processing method as claimed in claim 25, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encoding the respective tiles into code data.

27. (New) The image processing method as claimed in claim 25, wherein segmenting an image into one or more regions comprises segmenting the image into at least one of a text region, a drawing region, a photograph region, and a background region.

28. (New) The image processing method as claimed in claim 25, further comprising:
storing the codestream;
decoding the stored codestream into an image; and
forming the image generated as a results of decoding the stored codestream.

29. (New) An image processing method comprising:
segmenting an image into one or more regions;
generating the one or more regions into components;
converting the respective components into different data formats;
encoding the components into code data using a same compression method; and
combining the code data into a codestream.

30. (New) The image processing apparatus as claimed in claim 29, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

31. (New) The image processing method as claimed in claim 29, wherein segmenting an image into one or more regions comprises segmenting the image into a least one of a text region, a drawing region, a photograph region, and a background region.

32. (New) The image processing method as claimed in claim 29, further comprising:
storing the codestream;
decoding the stored codestream into an image; and
forming the image that results from decoding the stored codestream.

33. (New) An article of manufacture having one or more recordable medium storing instructions which, when executed by a computer, cause the computer to perform an image processing method comprising:

segmenting an image into one or more regions;
generating the one or more segmented regions into components;
encoding the components into code data using different compression methods; and
combining the code data into a codestream.

34. (New) The article of manufacture as claimed in claim 33, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encoding the respective tiles into code data.

35. (New) The article of manufacture as claimed in claim 33, wherein segmenting an image into one or more regions comprises segmenting the image into at least one of a text region, a drawing region, a photograph region, and a background region.

36. (New) The article of manufacture as claimed in claim 33, wherein the image processing method further comprises:
storing the codestream;

decoding the stored codestream into an image; and
forming the image generated as a results of decoding the stored codestream.

37. (New) An article of manufacture having one or more recordable medium storing instructions which, when executed by a computer, cause the computer to perform an image processing method comprising:

segmenting an image into one or more regions;
generating the one or more regions into components;
converting the respective components into different data formats;
encoding the components into code data using a same compression method; and
combining the code data into a codestream.

38. (New) The article of manufacture as claimed in claim 37, wherein encoding the components into code data comprises dividing the image into a plurality of tiles and hierarchically encodes the respective tiles into code data.

39. (New) The article of manufacture as claimed in claim 37, wherein segmenting an image into one or more regions comprises segmenting the image into a least one of a text region, a drawing region, a photograph region, and a background region.

40. (New) The article of manufacture as claimed in claim 37, wherein the image processing method further comprises:

storing the codestream;
decoding the stored codestream into an image; and

forming the image that results from decoding the stored codestream.